Preface

This proceedings volume includes papers for presentation at DGCI 2000 in Uppsala, Sweden, 13–15 December 2000. DGCI 2000 is the 9th in a series of international conferences on Discrete Geometry for Computer Imagery. DGCI 2000 is organized by the Centre for Image Analysis (Swedish University of Agricultural Sciences and Uppsala University). It is sponsored by the International Association for Pattern Recognition (IAPR) and by the Swedish Society for Automated Image Analysis (SSAB). This is the first DGCI conference to take place outside France.

The number of researchers active in the field of discrete geometry and computer imagery is increasing. In comparison with the previous editions, DGCI 2000 has attracted a significantly larger number of research contributions from academic and research institutions in different countries. In fact, 62 papers were submitted. The contributions focus on topology, discrete images, surfaces and volumes, shape representation, and shape understanding. After careful reviewing by an international board of reviewers, 40 papers from 16 countries were accepted, leading to a high-quality conference. Of the 40 accepted papers, 28 were selected for oral presentation and 12 for poster presentation. All accepted contributions have been scheduled in plenary sessions. The programme also has been enriched by three invited lectures, presented by three internationally known speakers: Pieter Jonker (Delft University of Technology, The Netherlands), Pierre Soille (ISPRA, Italy), and Jayaram K. Udupa (University of Pennsylvania, USA).

We hope that we have made DGCI 2000 an unforgettable event, especially for researchers from outside Sweden. In fact, the uniquely Swedish Lucia celebration of returning light in the middle of winter has been scheduled in the early morning of 13 December, just before starting the DGCI technical programme. Also, the conference dates were chosen to overlap with the week when the Nobel Prizes are awarded in Stockholm and the Nobel Laureates are giving lectures in Uppsala. In our opinion, these events should be very stimulating for all researchers.

Hereby, we would like to thank the contributors who responded to the call for papers, the invited speakers, all reviewers and members of the Steering, Programme, and Local Committees, as well as DGCI participants. We are also grateful to the sponsoring organizations that provided financial help, indispensable to a successful conference.

September 2000

Gunilla Borgefors Ingela Nyström Gabriella Sanniti di Baja

Organization

DGCI 2000 is organized by the Centre for Image Analysis, Swedish University of Agricultural Sciences, and Uppsala University in Uppsala. The conference venue is the Mathematics and Information Technology campus (MIC) of Uppsala University.

Conference Chairs

General Chair: Gunilla Borgefors

Centre for Image Analysis, Swedish University

of Agricultural Sciences, Uppsala, Sweden

Programme Chair: Gabriella Sanniti di Baja

Istituto di Cibernetica, National Research

Council of Italy, Arco Felice (Napoli), Italy

Local Arrangements Chair: Ingela Nyström

Centre for Image Analysis, Uppsala University,

Uppsala, Sweden

Steering Committee

Ehoud Ahronovitz	LIRMM, Montpellier	France
Gilles Bertrand	ESIEE, Marne-la-Vallée (Paris)	France
Jean-Marc Chassery	TIMC-IMAG, Grenoble	France
Annick Montanvert	ENSIEG-LIS, Grenoble	France
Maurice Nivat	LIAFA-Paris VI	France
Denis Richard	LLAIC1, Clermont-Ferrand	France

Programme Committee

Yves Bertrand	IRCOM-SIC, Poitiers	France
Alberto Del Lungo	Università di Siena	Italy
Ulrich Eckhardt	Universität Hamburg	Germany
Christophe Fiorio	LIRMM, Montpellier	France
Richard W. Hall	University of Pittsburgh	USA
T. Yung Kong	City University of New York	USA
Vladimir Kovalevsky	Universität Rostock	Germany
Walter Kropatsch	Technische Universität Wien (Vienna)	Austria
Attila Kuba	József Attila University, Szeged	Hungary
Rémy Malgouyres	LLAIC1, Clermont-Ferrand	France
Serge Miguet	ERIC, Université Lyon 2	France
Ingemar Ragnemalm	Linköping University	Sweden
Gabor Szekely	ETH, Zürich	Switzerland
Mohamed Tajine	ULP, Strasbourg	France

Local Organizing Committee

Stina Svensson Lena Wadelius

Referees

Ehoud Ahronovitz Eric Andres Dominique Attali Jean-Pierre Aubert Emese Balogh Gilles Bertrand Yves Bertrand Gunilla Borgefors Sara Brunetti Jean-Marc Chassery David Coeurjolly Michel Couprie Guillaume Damiand Alain Daurat Alberto Del Lungo Marianna Dudásné

Jean-François Dufourd Ulrich Eckhardt Christophe Fiorio Sébastien Fourey Yan Gerard Michel Habib Richard W. Hall Christer Kiselman T. Yung Kong Vladimir Kovalevsky Walter Kropatsch Attila Kuba Christophe Lohou Rémy Malgouyres Serge Miguet

Annick Montanvert

Antal Nagy
Phillippe Nehlig
Maurice Nivat
Ingela Nyström
Kálmán Palágyi
Ingemar Ragnemalm
Denis Richard
Christian Ronsé
Gabriella Sanniti di Baja
Pierre Soille
Gabor Szekely
Mohamed Tajine
Larue Tougne
Jayaram K. Udupa

Sponsors

City of Uppsala

Swedish Foundation for Strategic Research (SSF) through the Visual Information Technology (VISIT) programme Swedish Research Council for Engineering Sciences, TFR Faculty of Forestry, Swedish University of Agricultural Sciences Faculty of Information Technology, Uppsala University Faculty of Science and Technology, Uppsala University

Swedish Society for Automated Image Analysis, SSAB International Association for Pattern Recognition, IAPR